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#11 Search BRCA2 fusion protein	11:48:00	<u>22</u>
#10 Search RAD51 fusion protein	11:47:26	<u>74</u>
#7 Search #5 and structure	11:47:08	9
#9 Search fds	11:45:52	<u>404</u>
#6 Search #5 and crystal and structure	09:31:29	<u>2</u>
#5 Search RAD51-BRC	09:31:15	<u>31</u>
#2 Search #1 and crystal	09:17:51	<u>2</u>
#1 Search RAD51 and BRC	09:17:08	<u>31</u>

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	DB=PG	PB, USPT, USOC, EPAB, JPAB, DWPI; PLUR=YES; OP=ADJ	
	L5	RAD51 and (venkitaraman\$ or pellegrini\$ or blundell\$ or yu\$ or bates\$).in.	18
	L4	RAD51 and BRC and "crystal".clm.	1
	L3	L1 and "crystal".clm.	0
	L2	L1 and crystal	14
	L1	RAD51 and BRCA	40

END OF SEARCH HISTORY

10531242

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(FILE 'HOME' ENTERED AT 13:04:12 ON 13 JUN 2007)

FILE 'CAPLUS' ENTERED AT 13:04:53 ON 13 JUN 2007

L1 34 S RAD51 AND BRC

L2 4 S L1 AND CRYSTAL

=> d L2 1-4

- L2 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
- AN 2004:354973 CAPLUS
- DN 140:334412
- TI Use of crystal structure of human RAD51-BRCA2
 BRC repeat complex in screening for anti tumor agents
- IN Venkitaraman, Ashok; Pellegrini, Luca; Blundell, Tom; Yu, David; Lo, Thomas; Bates, Debbie; Shivji, Mahmud; Anand, Shubha; Lee, Miyoung
- PA Cambridge University Technical Services Ltd., UK
- SO PCT Int. Appl., 102 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004035621	A2	20040429	WO 2003-GB4485	20031014
	WO 2004035621	A3	20040826		
	AU 2003271967	Al	20040504	AU 2003-271967	20031014
	EP 1551871	A2	20050713	EP 2003-753806	20031014
	EP 1650223	A2	20060426	EP 2005-26068	20031014
	EP 1650223	A3	20060726		
	US 2006234293	A1	20061019	US 2005-531242	20050524
PRAI	GB 2002-23860 ·	Α	20021014		
	EP 2003-753806	A3	20031014		
	WO 2003-GB4485	W	20031014		

- L2 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
- AN 2003:705265 CAPLUS
- DN 140:72789
- TI Sequence fingerprints in BRCA2 and RAD51: implications for DNA repair and cancer
- AU Lo, Thomas; Pellegrini, Luca; Venkitaraman, Ashok R.; Blundell, Tom L.
- CS Department of Biochemistry, University of Cambridge, Cambridge, CB2 1GA,
- SO DNA Repair (2003), 2(9), 1015-1028 CODEN: DRNEAR; ISSN: 1568-7864
- PB Elsevier Science B.V.
- DT Journal
- LA English
- RE CNT 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L2 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
- AN 2003:681788 CAPLUS
- DN 139:318901
- TI Full-length archaeal Rad51 structure and mutants: mechanisms for RAD51 assembly and control by BRCA2
- AU Shin, David S.; Pellegrini, Luca; Daniels, Douglas S.; Yelent, Biana; Craig, Lisa; Bates, Debbie; Yu, David S.; Shivji, Mahmud K.; Hitomi, Chiharu; Arvai, Andrew S.; Volkmann, Niels; Tsuruta, Hiro; Blundell, Tom

- L.; Venkitaraman, Ashok R.; Tainer, John A.
- CS Department of Molecular Biology and The Skaggs Institute for Chemical Biology, The Scripps Research Institute, La Jolla, CA, 92037, USA
- SO EMBO Journal (2003), 22(17), 4566-4576 CODEN: EMJODG; ISSN: 0261-4189
- PB Oxford University Press
- DT Journal
- LA English
- RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L2 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
- AN 2002:883768 CAPLUS
- DN 138:200905
- TI Insights into DNA recombination from the structure of a RAD51 ${\tt -BRCA2}$ complex
- AU Pellegrini, Luca; Yu, David S.; Lo, Thomas; Anand, Shubha; Lee, MiYoung; Blundell, Tom L.; Venkitaraman, Ashok R.
- CS Department of Biochemistry, University of Cambridge, Cambridge, CB2 1GA, UK
- SO Nature (London, United Kingdom) (2002), 420(6913), 287-293 CODEN: NATUAS; ISSN: 0028-0836
- PB Nature Publishing Group
- DT Journal
- LA English
- RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT



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1n0w 🕲 ∕🗐 🚱

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Primary Citation

DOI 10.2210/pdb1n0w/pdb

Images and V

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Title

Crystal structure of a RAD51-BRCA2 BRC repeat complex

Authors

Pellegrini, L., Yu, D.S., Lo, T., Anand, S., Lee, M., Blundell, T.L., Venkitaraman, A.R.

Pellegrini, L., Yu, D.S., Lo, T., Anand, S., Lee, M., Blundell, T.L., Venkitaraman, A.R. Insights into

DNA recombination from the structure of a RAD51-BRCA2 complex Nature v420 pp.287-293, 2002

[Abstract] 🖤

Deposition 2002-10-15 Release 2002-History

11-27

Type X-RAY DIFFRACTION Data Experimental Method

[EDS]

Parameter's

Resolution R-Value R-Free [A] 🚟

0.191 0.206 (work)

Space Group

P 2₁ 2₁ 2₁

Unit Cell

Length a [Å],

1.70

57.30 b 59.14 c 77.20

Angles alpha 90.00 beta 90.00 gamma 90.00

Molecular Description Asymmetric Unit

Polymer: 1 Molecule: DNA repair protein RAD51 homolog 1 Fragment: ATPase

domain Chains: A

Polymer: 2 Molecule: Breast cancer type 2 susceptibility protein Fragment: BRC repeat type 4 Chains: B

Polymer: 3 Molecule: peptide linker Chains: L Other Details: this peptide links

the BRCA2 to the RAD51 Polymer: 4 Molecule: ARTIFICIAL GLY-SER-MSE-GLY PEPTIDE Chains: C Other Details: this peptide comes from the expression vector and is linked to the N-

terminus of BRCA2



Displa

MBT PI

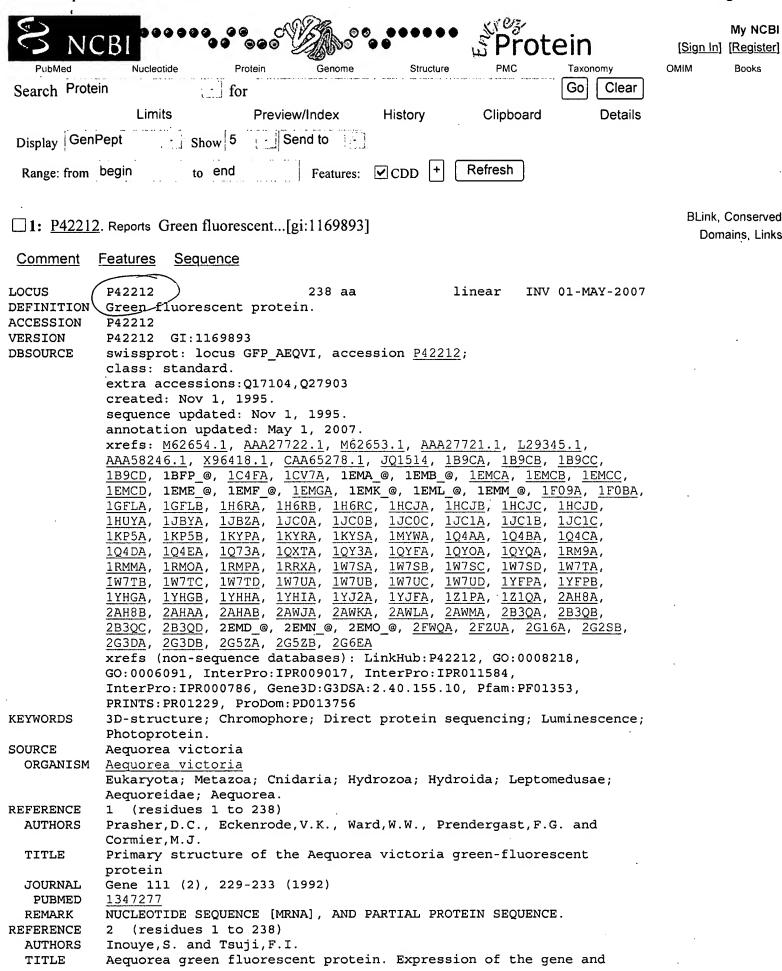
Classification	Gene Regulation/antitumor Protein			
Source	Polymer: 1 Scientific Name: Homo sapiens Common Na			
	system: Escherichia Name: Human Exp	coli Polymer	: 2 Scientific	Name: Hom
	Unknown 💙 Exp	ression system:	Escherichia	coli Polyme
	Unknown 😅 Exp	ression system:	Escherichia	coli
Chemical Component	Identifier Name		Formula	Drug Ha Similarity Sir
	MSE SELENOME	ETHIONINE	C ₅ H ₁₁ N C Se	
	MG MAGNESIU	IM ION	Mg ²⁺	
	EDO 1,2-ETHAN	EDIOL	$C_2 H_6 O_2$	
•	CL CHLORIDE	ION	CI -	
SCOP Classification	Domain Class	Fold	Superfamily	Family
(version 1.71)	d1n0wa_ Alpha and beta proteins (a/b)	containing	nucleoside triphosphate hydrolases	RecA protein-like (ATPase- domain)
	d1n0wb_ Peptides	BRCA2 BRC4 repeat	BRC4 repeat	BRCA2 BRC4 repeat
CATH Classification	Domain Cla	ss	Architecture	Topology
(version v3.0.0)	1n0wA00 Alp	ha Beta	3-Layer(aba) Sandwich	Rossman
PFAM	Chain PFAM Accession	n PFAM ID	Description	Турє
Classification	A PF08423 🗗	Rad51	Rad51	Dom
	B PF00634 🗹	BRCA2	BRCA2 repeat	t Fam
GO Terms	Polymer	Molecular Fund	ction Biolo	gical Process
	DNA repair protein RAD51 homolog 1 (1N0W:A)	 nucleo binding nucleo binding DNA b DNA b damag binding damag binding ATP bi ATP bi DNA-depender ATP assistant ATP assistant 	g itide g inding inding g ded DNA g ged DNA g nding nding dent e y dent	 DNA metabolic process DNA metabolic process DNA repair DNA repair

- activity
 nucleoside-triphosphatase activity
 nucleoside-triphosphatase
- triphosphatase activity
- Breast cancer type 2 susceptibility protein (1N0W:B) peptide linker (1N0W:L) ARTIFICIAL GLY-SER-MSE-GLY PEPTIDE (1N0W:C)
- none
- DNA repair DNA repair
- none
- none
- none
- none

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```
fluorescence characteristics of the recombinant protein
  JOURNAL
            FEBS Lett. 341 (2-3), 277-280 (1994)
   PUBMED
            8137953
  REMARK
            NUCLEOTIDE SEQUENCE [MRNA].
REFERENCE
               (residues 1 to 238)
            3
            Rouwendal, G.J., Mendes, O., Wolbert, E.J. and Douwe de Boer, A.
  AUTHORS
  TITLE
            Enhanced expression in tobacco of the gene encoding green
            fluorescent protein by modification of its codon usage
            Plant Mol. Biol. 33 (6), 989-999 (1997)
  JOURNAL
   PUBMED
            9154981
            NUCLEOTIDE SEQUENCE [MRNA].
  REMARK
REFERENCE
               (residues 1 to 238)
            Cody, C.W., Prasher, D.C., Westler, W.M., Prendergast, F.G. and
  AUTHORS
            Ward, W.W.
            Chemical structure of the hexapeptide chromophore of the Aequorea
  TITLE
            green-fluorescent protein
            Biochemistry 32 (5), 1212-1218 (1993)
  JOURNAL
            8448132
   PUBMED
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            CHROMOPHORE.
               (residues 1 to 238)
REFERENCE
  AUTHORS
            Ormo, M., Cubitt, A.B., Kallio, K., Gross, L.A., Tsien, R.Y. and
            Remington, S.J.
  TITLE
            Crystal structure of the Aequorea victoria green fluorescent
  JOURNAL
            Science 273 (5280), 1392-1395 (1996)
            8703075
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            X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS).
  REMARK
REFERENCE
            6 (residues 1 to 238)
  AUTHORS
            Yang, F., Moss, L.G. and Phillips, G.N. Jr.
  TITLE
            The molecular structure of green fluorescent protein
  JOURNAL
            Nat. Biotechnol. 14 (10), 1246-1251 (1996)
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            9631087
  REMARK
            X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS).
REFERENCE
               (residues 1 to 238)
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            Wachter, R.M., Elsliger, M.A., Kallio, K., Hanson, G.T. and
  AUTHORS
            Remington, S.J.
            Structural basis of spectral shifts in the yellow-emission variants
  TITLE
            of green fluorescent protein
  JOURNAL
            Structure 6 (10), 1267-1277 (1998)
   PUBMED
            9782051
            X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF MUTANT WITH YELLOW
  REMARK
            EMISSION.
REFERENCE
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  AUTHORS
            Elsliger, M.A., Wachter, R.M., Hanson, G.T., Kallio, K. and
            Remington, S.J.
  TITLE
            Structural and spectral response of green fluorescent protein
            variants to changes in pH
            Biochemistry 38 (17), 5296-5301 (1999)
  JOURNAL
   PUBMED
            10220315
  REMARK
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            On Apr 26, 2005 this sequence version replaced gi:7428731.
COMMENT
            [FUNCTION] Energy-transfer acceptor. Its role is to transduce the
            blue chemiluminescence of the protein aequorin into green
            fluorescent light by energy transfer. Fluoresces in vivo upon
            receiving energy from the Ca(2+)-activated photoprotein aequorin.
            [BIOPHYSICOCHEMICAL PROPERTIES] Absorption: Abs(max) = 395 nm;
            Note=Exhibits a smaller absorbance peak at 470 nm. The fluorescence
            emission spectrum peaks at 509 nm with a shoulder at 540 nm.
            [SUBUNIT] Monomer.
            [TISSUE SPECIFICITY] Photocytes.
            [PTM] Contains a chromophore consisting of modified amino acid
            residues. The chromophore is formed by autocatalytic backbone
            condensation between Xaa-N and Gly-(N+2), and oxidation of
```

FEATURES

gene

```
Tyr-(N+1) to didehydrotyrosine. Maturation of the chromophore
       requires nothing other than molecular oxygen.
       [BIOTECHNOLOGY] Fluorescent proteins have become a useful and
       ubiquitous tool for making chimeric proteins, where they function
       as a fluorescent protein tag. Typically they tolerate N- and
       C-terminal fusion to a broad variety of proteins. They have been
       expressed in most known cell types and are used as a noninvasive
       fluorescent marker in living cells and organisms. They enable a
       wide range of applications where they have functioned as a cell
       lineage tracer, reporter of gene expression, or as a measure of
       protein-protein interactions.
       [SIMILARITY] Belongs to the GFP family.
       [WEB RESOURCE] NAME=Protein Spotlight; NOTE=The greenest of us all

    Issue 11 of June 2001;

       URL='http://www.expasy.org/spotlight/back issues/sptlt011.shtml'.
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Protein
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Region
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                25..36
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Region
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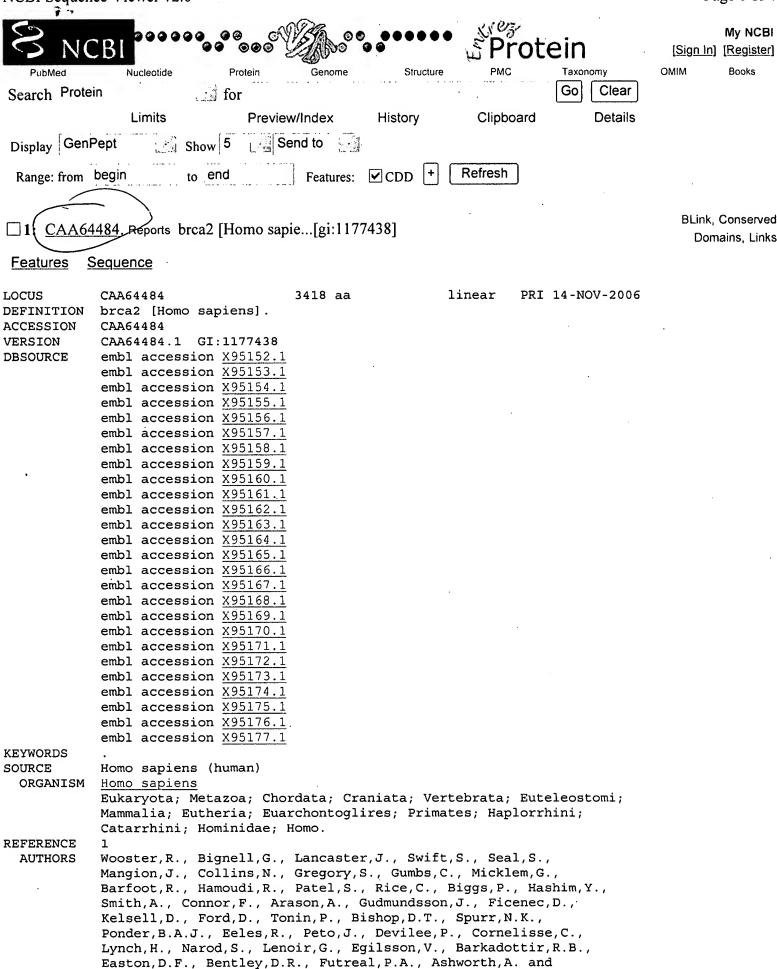
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      121 nrielkgidf kedgnilghk leynynshnv yimadkqkng ikvnfkirhn iedgsvqlad
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Apr 17 2007 11:10:07



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Stratton, M.R.
            Identification of the breast cancer susceptibility gene BRCA2
  TITLE
            Nature 378 (6559), 789-792 (1995)
  JOURNAL
   PUBMED
            8524414
            Erratum: [Nature 1996 Feb 22;379(6567):749]
  REMARK
REFERENCE
            2 (residues 1 to 3418)
  AUTHORS
            Wooster, R.
            Direct Submission
  TITLE
            Submitted (15-JAN-1996) R. Wooster, Institute of Cancer Research,
  JOURNAL
            Haddow Labs, 15 Cotswold Rd, Sutton, Surrey, SM2 5NG, UK
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                     helical structure, consisting of a four-helix cluster core
                      (alpha 1, alpha 8, alpha 9, alpha 10) and two successive
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                     X95169.1:500..655, X95170.1:501..645, X95171.1:219..340,
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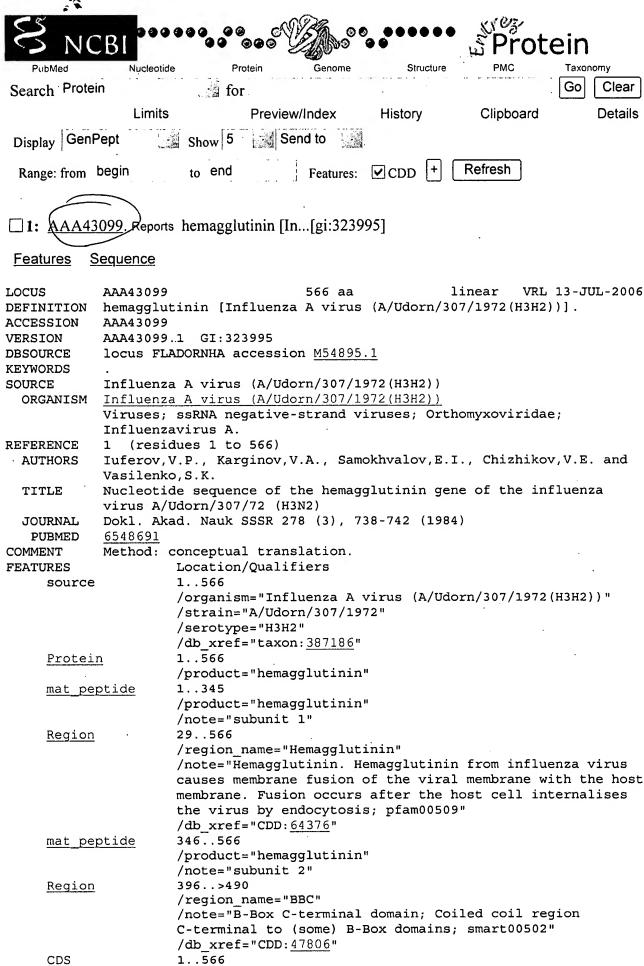
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My NCBI

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ORIGIN

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